

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A cushioning device for a footwear, comprising:

- a) a chamber including a magnetically responsive fluid;
- b) said fluid comprising core particles of a magnetic material;
- c) said core particles comprising first and second successive coatings; ~~[[and]]~~
- d) one of said first and second coatings comprising a coating of at least one member selected from the group consisting of a ceramic material, a metallic material, and a combination thereof; and
- ~~[[d)]]~~ e) a magnetic member for applying a magnetic field to said fluid thereby varying the viscosity thereof.

Claim 2 (previously amended): The cushioning device of Claim 1, wherein:

- a) the viscosity of said fluid is greater than the viscosity of at least one member selected from the group consisting of water, glycerine, hydraulic oil, mineral oil, and a combination thereof.

Claim 3 (original): The cushioning device of Claim 1, further comprising:

- a) a weight sensor for determining the weight of a user of a footwear.

Claim 4 (original): The cushioning device of Claim 1, further comprising:

- a) a movement sensor for determining the movement of a footwear.

Claim 5 (original): The cushioning device of Claim 3, further comprising:

- a) a control unit for receiving information from said weight sensor and relaying a signal to said magnetic member to apply a magnetic field.

Claim 6 (canceled)

Claim 7 (previously amended): The cushioning device of Claim 1, wherein:

- a) a plurality of said core particles are attracted to form a magnetically connected structure when a magnetic field is applied to said fluid.

Claim 8 (original): The cushioning device of Claim 7, wherein:

- a) said structure comprises generally rectilinear or bent configuration.

Claim 9 (canceled)

Claim 10 (previously amended): The cushioning device of Claim 1, wherein:

- a) said core particles have an average diameter of about 1 nm to 100 μm .

Claim 11 (original): The cushioning device of Claim 10, wherein:

- a) said core particles have an average diameter of about 1 nm to 10 μm .

Claim 12 (original): The cushioning device of Claim 11, wherein:

- a) said core particles have an average diameter of about 10 nm to 5 μ m.

Claim 13 (previously amended): The cushioning device of Claim 1, wherein:

- a) said magnetic material comprises at least one member selected from the group consisting of iron, iron oxide, cobalt, cobalt oxide, nickel, nickel oxide, an alloy, and a combination thereof.

Claim 14 (currently amended): The cushioning device of Claim 1, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant.

Claim 15 (currently amended): The cushioning device of Claim 14, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of ~~polyethylene glycol~~, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 16 (canceled).

Claim 17 (currently amended): The cushioning device of Claim [[16]] 1, wherein:

- a) the member is selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, ~~polyethylene glycol~~, ~~polystyrene~~, dextran, and a combination thereof.

Claim 18 (canceled)

Claim 19 (currently amended): The cushioning device of Claim 1, wherein:

- a) said first coating comprises a coating of a surfactant; and
- b) said second coating comprises a coating of the member. ~~at least one material selected from the group consisting of a ceramic material, a metallic material, a polymer material, and a combination thereof.~~

Claim 20 (currently amended): The cushioning device of Claim 19, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of ~~polyethylene glycol~~, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 21 (currently amended): The cushioning device of Claim 20, wherein:

- a) said second coating comprises at least one member selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, ~~polyethylene glycol, polystyrene~~, dextran, and a combination thereof.

Claim 22 (currently amended): The cushioning device of Claim 10, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant; and
- b) said core particles are dispersed in a carrier fluid.

Claim 23 (original): The cushioning device of Claim 22, wherein:

- a) said carrier fluid comprises a water-based or an oil-based carrier fluid.

Claim 24 (previously amended): The cushioning device of Claim 22, wherein:

- a) said carrier fluid comprises at least one member selected from the group consisting of water, hydraulic oil, mineral oil, silicone oil, biodegradable oil, and a combination thereof.

Claim 25 (currently amended): The cushioning device of Claim 22, wherein:

- a) ~~[[is]]~~ said fluid comprises about 1-95% of said core particles.

Claim 26 (previously amended): The cushioning device of Claim 10, wherein:

- a) said core particles comprise at least one general shape selected from the group consisting of spherical, needle-shaped, cubic, irregular, cylindrical, diamond, oval, and a combination thereof.

Claim 27 (currently amended): A sole for a footwear, comprising:

- a) a chamber including a magnetically responsive fluid;
- b) said fluid comprising core particles of a magnetic material;
- c) said core particles comprising first and second successive coatings;
- d) one of said first and second coatings comprising a coating of at least one member selected from the group consisting of a ceramic material, a metallic material, and a combination thereof;
- ~~[[d)]]~~ e) a magnetic member for applying a magnetic field to said fluid thereby varying the viscosity thereof; and

[[e]] f) a control unit for relaying a signal to said magnetic member to
apply a magnetic field.

Claim 28 (previously amended): The sole of Claim 27, wherein:

- a) the viscosity of said fluid is greater than the viscosity of at least one member selected from the group consisting of water, glycerine, hydraulic oil, mineral oil, and a combination thereof.

Claim 29 (original): The sole of Claim 27, further comprising:

- a) a weight sensor for determining the weight of a user of a footwear.

Claim 30 (original): The sole of Claim 27, further comprising:

- a) a movement sensor for determining the movement of a footwear.

Claim 31 (original): The sole of Claim 29, wherein:

- a) said control unit receives information from said weight sensor for relaying a signal to said magnetic member to apply a magnetic field.

Claim 32 (original): The sole of Claim 31, wherein:

- a) the strength of a magnetic field applied by said magnetic member is proportional to the weight of a user.

Claim 33 (canceled)

Claim 34 (previously amended): The sole of Claim 27, wherein:

- a) a plurality of said core particles form a magnetically connected structure when a magnetic field is applied to said fluid.

Claim 35 (original): The sole of Claim 34, wherein:

- a) said structure comprises a generally rectilinear or bent configuration.

Claim 36 (original): The sole of Claim 35, wherein:

- a) said structure is oriented in a generally vertical direction.

Claim 37 (original): The sole of Claim 27, wherein:

- a) the sole comprises toe and heel portions each including one said chamber.

Claim 38 (original): The sole of Claim 37, wherein:

- a) each of said toe and heel portions includes one said magnetic member.

Claim 39 (original): The sole of Claim 38, wherein:

- a) the strengths of the magnetic fields applied by the magnetic members of said toe and heel portions may be substantially the same or different.

Claim 40 (original): The sole of Claim 38, wherein:

- a) the magnetic members of said toe and heel portions apply magnetic fields substantially simultaneously or at different times.

Claim 41 (canceled)

Claim 42 (previously amended): The sole of Claim 27, wherein:

- a) said core particles have an average diameter of about 1 nm to 100 μm .

Claim 43 (original): The sole of Claim 42, wherein:

- a) said core particles have an average diameter of about 1 nm to 10 μm .

Claim 44 (original): The sole of Claim 43, wherein:

- a) said core particles have an average diameter of about 10 nm to 5 μm .

Claim 45 (previously amended): The sole of Claim 27, wherein:

- a) said magnetic material comprises at least one member selected from the group consisting of iron, iron oxide, cobalt, cobalt oxide, nickel, nickel oxide, an alloy, and a combination thereof.

Claim 46 (currently amended): The sole of Claim 27, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant.

Claim 47 (currently amended): The sole of Claim 46, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of ~~polyethylene glycol~~, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 48 (canceled).

Claim 49 (currently amended): The sole of Claim ~~[[48]]~~ 27, wherein:

- a) the member is selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, ~~polyethylene glycol~~, ~~polystyrene~~, dextran, and a combination thereof.

Claim 50 (canceled)

Claim 51 (currently amended): The sole of Claim 27, wherein:

- a) said first coating comprises a coating of a surfactant; and
- b) said second coating comprises a coating of the member at ~~least one material selected from the group consisting of a ceramic material, a metallic material, a polymer material, and a combination thereof.~~

Claim 52 (currently amended): The sole of Claim 51, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of ~~polyethylene glycol~~, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 53 (currently amended): The sole of Claim 52, wherein:

- a) said second coating comprises at least one member selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, ~~polyethylene glycol~~, ~~polystyrene~~, dextran, and a combination thereof.

Claim 54 (currently amended): The sole of Claim 42, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant; and
- b) said core particles are dispersed in a carrier fluid.

Claim 55 (original): The sole of Claim 54, wherein:

- a) said carrier fluid comprises a water-based or an oil-based carrier fluid.

Claim 56 (previously amended): The sole of Claim 54, wherein:

- a) said carrier fluid comprises at least one member selected from the group consisting of water, hydraulic oil, mineral oil, silicone oil, biodegradable oil, and a combination thereof.

Claim 57 (previously amended): The sole of Claim 54, wherein:

- a) said fluid comprises about 1-95% of said core particles.

Claim 58 (previously amended): The sole of Claim 42, wherein:

- a) said core particles comprise at least one general shape selected from the group consisting of spherical, needle-shaped, cubic, irregular, cylindrical, diamond, oval, and a combination thereof.

Claim 59 (currently amended): A sole for a footwear, comprising:

- a) a chamber including a magnetically responsive fluid;
- b) said fluid comprising core particles of a magnetic material;
- c) said core particles comprising first and second successive coatings;
- d) one of said first and second coatings comprising a coating of at least one member selected from the group consisting of a ceramic material, a metallic material, and a combination thereof;
- ~~[[d)]]~~ e) an electromagnet for applying a magnetic field to said fluid thereby varying the viscosity thereof;
- ~~[[e)]]~~ f) a movement sensor for determining the movement of a footwear;
- ~~[[f)]]~~ g) a weight sensor for determining the weight of a user of a footwear; and
- ~~[[g)]]~~ h) a control unit for receiving information from one of said movement and weight sensors and relaying a signal to said electromagnet for applying a magnetic field.

Claim 60 (previously amended): The sole of Claim 59, wherein:

- a) the viscosity of said fluid is greater than the viscosity of at least one member selected from the group consisting of water, glycerine, hydraulic oil, mineral oil, and a combination thereof.

Claim 61 (original): The sole of Claim 59, wherein:

- a) the strength of a magnetic field applied by said magnetic member is proportional to the weight of a user.

Claim 62 (canceled)

Claim 63 (previously amended): The sole of Claim 59, wherein:

- a) a plurality of said core particles form a magnetically connected structure when a magnetic field is applied to said fluid.

Claim 64 (original): The sole of Claim 63, wherein:

- a) said structure comprises a generally rectilinear or bent configuration.

Claim 65 (original): The sole of Claim 64, wherein:

- a) said structure is oriented in a generally vertical direction.

Claim 66 (original): The sole of Claim 59, wherein:

- a) the sole comprises toe and heel portions each including one said chamber.

Claim 67 (original): The sole of Claim 66, wherein:

- a) each of said toe and heel portions includes one said magnetic member.

Claim 68 (original): The sole of Claim 67, wherein:

- a) the strengths of the magnetic fields applied by the magnetic members of said toe and heel portions may be substantially the same or different.

Claim 69 (original): The sole of Claim 67, wherein:

- a) the magnetic members of said toe and heel portions apply magnetic fields substantially simultaneously or at different times.

Claim 70 (canceled)

Claim 71 (previously amended): The sole of Claim 59, wherein:

- a) said core particles have an average diameter of about 1 nm to 100 μm .

Claim 72 (original): The sole of Claim 71, wherein:

- a) said core particles have an average diameter of about 1 nm to 10 μm .

Claim 73 (original): The sole of Claim 72, wherein:

- a) said core particles have an average diameter of about 10 nm to 5 μm .

Claim 74 (previously amended): The sole of Claim 59, wherein:

- a) said magnetic material comprises at least one member selected from the group consisting of iron, iron oxide, cobalt, cobalt oxide, nickel, nickel oxide, an alloy, and a combination thereof.

Claim 75 (currently amended): The sole of Claim 59, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant.

Claim 76 (currently amended): The sole of Claim 75, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of ~~polyethylene glycol~~, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 77 (canceled).

Claim 78 (currently amended): The sole of Claim 77, wherein:

- a) the member is selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, ~~polyethylene glycol~~, ~~polystyrene~~, dextran, and a combination thereof.

Claim 79 (canceled).

Claim 80 (currently amended): The sole of Claim 59, wherein:

- a) said first coating comprises a coating of a surfactant; and
- b) said second coating comprises a coating of the member, at least one material selected from the group consisting of a ceramic material, a metallic material, a polymer material, and a combination thereof.

Claim 81 (currently amended): The sole of Claim 80, wherein:

- a) said surfactant comprises at least one member selected from the group consisting of polyethylene glycol, lecithin, oleic acid, non-ionic acetylenic diol, and a combination thereof.

Claim 82 (currently amended): The sole of Claim 81, wherein:

- a) said second coating comprises at least one member selected from the group consisting of silica, gold, silver, platinum, steel, cobalt, carbon, polyethylene glycol, polystyrene, dextran, and a combination thereof.

Claim 83 (currently amended): The sole of Claim 71, wherein:

- a) ~~one~~ the other of said first and second coatings comprises a coating of a surfactant; and
- b) said core particles are dispersed in a carrier fluid.

Claim 84 (original): The sole of Claim 83, wherein:

- a) said carrier fluid comprises a water-based or an oil-based carrier fluid.

Claim 85 (previously amended): The sole of Claim 83, wherein:

- a) said carrier fluid comprises at least one member selected from the group consisting of water, hydraulic oil, mineral oil, silicone oil, biodegradable oil, and a combination thereof.

Claim 86 (previously amended): The sole of Claim 83, wherein:

- a) said fluid comprises about 1-95% of said core particles.

Claim 87 (previously amended): The sole of Claim 71, wherein:

- a) said core particles comprise at least one general shape selected from the group consisting of spherical, needle-shaped, cubic, irregular, cylindrical, diamond, oval, and a combination thereof.

Claim 88 (canceled)

Claim 89 (previously amended): The sole of Claim 59, wherein:

- a) said control unit receives information from said movement sensor for relaying a signal to said electromagnet to apply a magnetic field.

Claim 90 (previously amended): The sole of Claim 89, wherein:

- a) the strength of a magnetic field applied by said electromagnet depends on a type of movement detected by said movement sensor.

Claim 91 (original): The sole of Claim 90, wherein:

- a) the type of movement is selected from the group consisting of walking, brisk walking, jogging, running, jumping, stepping, and skipping.

Claim 92 (original): The sole of Claim 59, wherein:

- a) said control unit receives information from both of said movement and weight sensors.

Claim 93 (previously amended): The sole of Claim 59, wherein:

- a) the strength of a magnetic field applied by said electromagnet depends on a type of movement detected by said movement sensor.

Claim 94 (original): The sole of Claim 93, wherein:

- a) the type of movement is selected from the group consisting of walking, brisk walking, jogging, running, jumping, stepping, and skipping.

Claim 95 (original): The cushioning device of Claim 10, wherein:

- a) said core particles comprise a plurality of groups of particles having different average diameters.

Claim 96 (original): The sole of Claim 42, wherein:

- a) said core particles comprise a plurality of groups of particles having different average diameters.

Claim 97 (original): The sole of Claim 71, wherein:

- a) said core particles comprise a plurality of groups of particles having different average diameters.

Claim 98 (currently amended): A method of varying the shock absorbing capacity of a footwear cushioning device, comprising:

- a) providing a cushioning device, comprising:
 - i. a chamber including a magnetically responsive fluid;
 - ii the fluid comprising core particles of a magnetic material;

- iii) the particles comprising first and second successive coatings; [[and]]
- iv) one of said first and second coatings comprising a coating of at least one member selected from the group consisting of a ceramic material, a metallic material, and a combination thereof; and
- [iv]] v) a magnetic member for applying a magnetic field to the fluid;
- b) applying a magnetic field to the fluid based on an input to thereby vary the viscosity of the fluid; and
- c) whereby a change in viscosity of the magnetic fluid changes the shock absorbing capacity of the cushioning device.

Claim 99 (original): The method of Claim 98, wherein:

the input in step b) comprises weight data for a user received from a weight sensor.

Claim 100 (original): The method of Claim 98, wherein:

the input in step b) comprises movement data for a footwear received from a movement sensor.